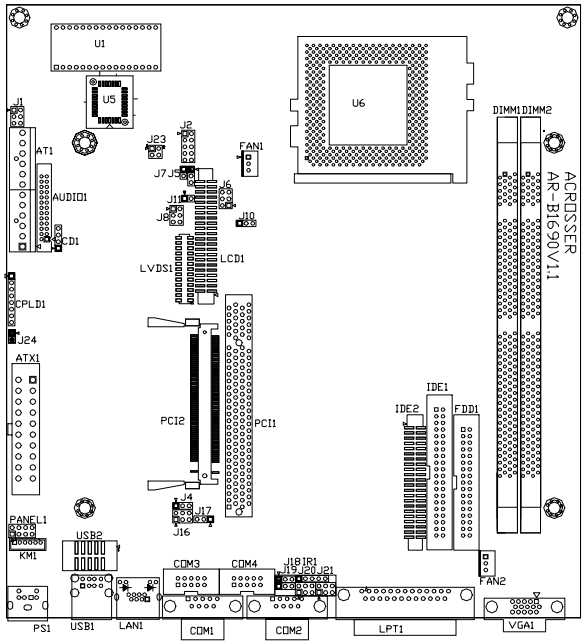
AR-B1690 MANUAL

Version 1.1

1. SETTING UP THE SYSTEM



1.1 PACKING LIST

- The quick setup manual
- 1 AR-B1690 CPU board
- 1 Hard disk drive adapter cable for 3.5” hard disk
- 1 Hard disk drive adapter cable for 2.5” hard disk
- 1 Floppy disk drive adapter cable
- 1 Software utility CD
- 2 RS-232 and 1 PS/2 Mouse & Keyboard interface cable mounted on bracket

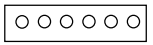
1.2 KEYBOARD & MOUSE CONNECTOR (PS1)

PS1

1 MOUSE DATA
2 KB DATA
3 GND
4 VCC
5 MOUSE CLOCK
6 KB CLOCK

Front View

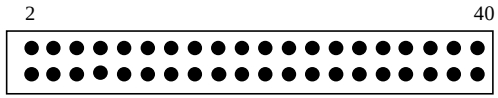
1.3 EXTERNAL KEYBOARD & MOUSE CONNECTOR (KM1)



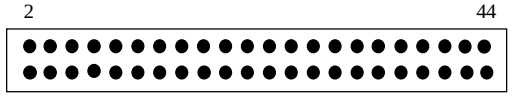
1.MOUSE DATA
2.KB DATA
3.GND
4.VCC
5.MOUSE CLOCK
6.KB CLOCK

1.4 HARD DISK (IDE) CONNECTOR (IDE1, IDE2)

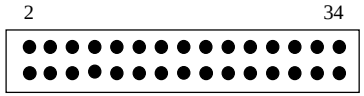
(1) 40 Pin Hard Disk Connector (IDE1)



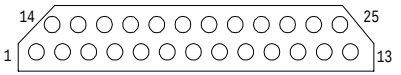
(2) 44 Pin Hard Disk Connector (IDE2)



1.5 FDD PORT CONNECTOR (FDD1)

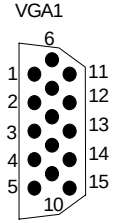


1.6 PARALLEL PORT CONNECTOR 1 (LPT1)



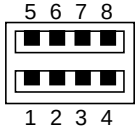
D-type Connector

1.7 CRT CONNECTOR (VGA1)



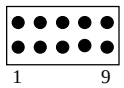
1 Red
2 Green
3 Blue
4,11 N.C
5&10 Ground
6,7&8 AGND
9 VCC
12 SDA
13 Horizontal Sync
14 vertical Sync
15 SCL

1.8 USB CONNECTOR (USB1)



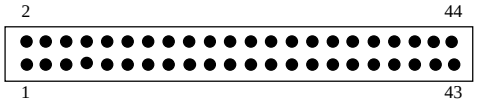
1.VCC	5.VCC
2.DATA0+	6.DATA1+
3.DATA0-	7.DATA1-
4.GND	8.GND

1.9 USB CONNECTOR (USB2)



1.VCC	5.DATA3+
2.VCC	6.DATA4+
3.DATA3-	7.8.GND
4.DATA4-	9.10.GND

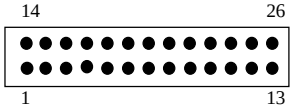
1.10 LCD CONNECTOR (LCD1)



LCD Pin Assignment

Pin	Signal	Pin	Signal
1	GND	2	CLK
3	GND	4	HSYNCR
5	VSYNCR	6	GND
7	Not Used	8	Not Used
9	FPDR0	10	FPDR1
11	FPDR2	12	FPDR3
13	GND	14	FPDR4
15	FPDR5	16	Not Used
17	Not Used	18	FPDR6
19	FPDR7	20	GND
21	FPDR8	22	FPDR9
23	FPDR10	24	FPDR11
25	Not Used	26	Not Used
27	GND	28	FPDR12
29	FPDR13	30	FPDR14
31	FPDR15	32	FPDR16
33	FPDR17	34	GND
35	VCC	36	VCC
37	+12V	38	+12V
39	GND	40	GND
41	DISPENR	42	GKLENR
43	GND	44	VDDEN

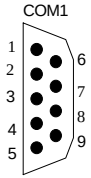
1.11 LVDS HEADER (LVDS1)



PIN (LVDS1)	FUNCTION	PIN (LVDS1)	FUNCTION
1	TXOUT0-	14	GND
2	TXOUT0+	15	GND
3	TXOUT1-	16	VTX5
4	TXOUT1+	17	VTX5
5	TXOUT2-	18	NC
6	TXOUT2+	19	GND
7	TXCLK-	20	GND
8	TXCLK+	21	VTX12
9	TXOUT3-	22	VTX12
10	TXOUT3+	23	GND
11	VTKBP	24	NC
12	VTX5	25	NC
13	VTX5	26	NC

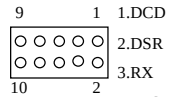
1.12 COM1.COM2

Only RS232

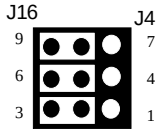


1.13 COM3

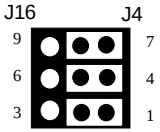
- USED RS232 & RS485



1.DCD 5.TX
2.DSR 6.CTS
3.RX 7.DTR
4.RTS 8.RI
9.GND



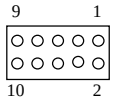
RS-232
Factory Preset



RS-485

1.14 COM 4

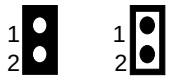
Only RS232



1.DCD 5.TX
2.DSR 6.CTS
3.RX 7.DTR
4.RTS 8.RI
9.GND

1.15 RS-485 TERMINATOR SELECT (J7)

When there is only one line the setting should be left off, if multiple blocks are used on a single line. This should be set to “ON” in order to properly terminate the connection for better transmission of data



OFF ON
Factory Preset

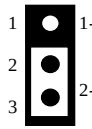
1.16 RS-485 HEADER (J5)

1 N485+
2 N485-
3 GND

1.17 TOUCH SCREEN CONNECTOR (J18, J19)

1 RXDF
2 TXDF
3 GND

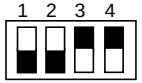
1.18 PCI SLOT (PCI 1)
1.19 MINI PCI SLOT (PCI 2)
1.20 PCI SELECT (J17)



1-2 When riser card is applied,
Please set 1-2 close
2-3 Support one PCI card (Factory Preset)

Factory Preset

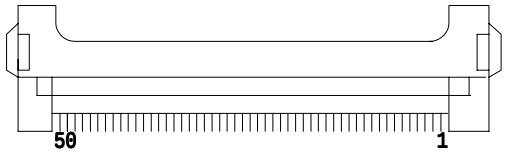
1.21 CPU SETTING SYSTEM BUS CLOCK (SW1)



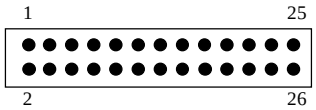
OFF

1	2	3	4	CPU	PCI
OFF	OFF	OFF	OFF	133	33.3
ON	OFF	OFF	OFF	124	31
OFF	ON	OFF	OFF	150	37.5
ON	ON	OFF	OFF	140	35
OFF	OFF	ON	OFF	105	35
ON	OFF	ON	OFF	110	36.6
OFF	ON	ON	OFF	115	38.3
ON	ON	ON	OFF	120	40
OFF	OFF	OFF	ON	100	33.3
ON	OFF	OFF	ON	133	44.3
OFF	ON	OFF	ON	112	37.3
ON	ON	OFF	ON	103	34.3
OFF	OFF	ON	ON	66	33 (Factory Preset)
ON	OFF	ON	ON	83	41.6
OFF	ON	ON	ON	75	37.5
ON	ON	ON	ON	124	41.3

1.22 COMPACT FLASH CONNECTOR (CF1)



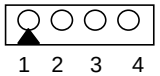
1.23 26-PIN AUDIO CONNECTOR (AUDIO1)



PIN	Signal	PIN	Signal
1	AUXAL	2	LINEL
3	AUXAR	4	LINER
5	VCC	6	Not Used
7	AUDIOL	8	MICPH
9	AUDIOR	10	PCSPKO
11	GND	12	GND
13	Not Used	14	Not Used
15	GND	16	GND
17	Not Used	18	Not Used
19	Not Used	20	Not Used
21	Not Used	22	Not Used
23	Not Used	24	Not Used
25	GND	26	GND

Note: the connector does not contain the GAME (MIDI) port signal. When AR-B1690 audio card is used with this CPU board, the GAME port function is not supported.

1.24 CD IN CONNECTOR (CD1)

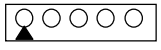


1.CDINL
2.3.GND
4.CDINR

1.25 CPU FAN POWER CONNECTOR (FAN1, FAN2)

1. GND
2. +12V
3. Fan Speed

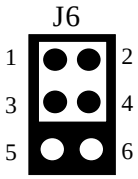
1.26 INFRARED CONNECTOR (IR1)



1.VCC
2.NC
3.IR DATA RECEIVER
4.GND
5.IR DATA TRANSFER

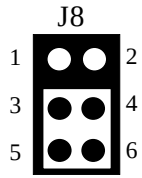
1.27 VOLTAGE SELECT (J6&J8)

LCD



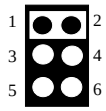
JUMPER	VOLTAGE	NOTE
1-3 ON 2-4 ON	VCC3	Factory Preset
3-5 ON 4-6 ON	VCC	

LVDS



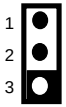
JUMPER	VOLTAGE	NOTE
1-3 ON 2-4 ON	VCC	
3-5 ON 4-6 ON	VCC3	Factory Preset

1.28 COM3-COM4 VOLTAGE SELECT (J20, J21)



1-2 +12V (Factory Preset)
3-4 +5V
5-6 GND

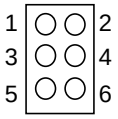
1.29 BATTERY JUMPER (J10)



1-2: ON-BOARD BATTERY (Factory Preset)
2-3: CLEAR CMOS

Factory Preset

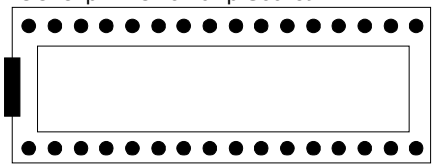
1.30 LED (J1)



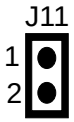
1-2: HDD LED (IDE1)
3-4: HDD LED (IDE2)
5-6: Power LED
1-3-5: VCC

1.31 D.O.C SOCKET (U1)

DOC: 32pin Disk-on-chip-Socket

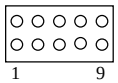


1.32 DOC ADDRESS SELECT (J11)



JUMPER	ADDRESS	NOTE
ON	D000:0000	Factory Preset
OFF	D200:0000	

1.33 GPIO CONNECTOR (J2)

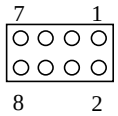


1.GPI 3	2.GPO 3 (MSB)
3.GPI 2	4.GPO 2
5.GPI 1	6.GPO 1
7.GPI 0	8.GPO 0 (LSB)
9.GND	10.VCC

1.34 GPIO ADDRESS (J23)

JUMPER		ADDRESS
1-2	3-4	
ON	ON	215 (Factory Preset)
ON	OFF	216
OFF	ON	77
OFF	OFF	78

1.35 PANEL 1



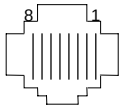
POWER LED
1.PW-LED
3.GND

POWER BUTTON
2.PW-BN
4.GND

HARD DISK LED
5.VCC
7. HD-LED

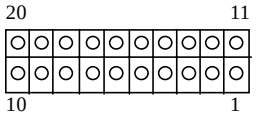
RESET BUTTON
6.RST-SW
8.GND

1.36 ETHERNET RJ-45 CONNECTOR (LAN1)



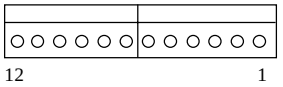
PIN (CN8)	FUNCTION
1	TPTX+
2	TPTX -
3	TPRX+
4	Not Used
5	Not Used
6	TPRX-
7	Not Used
8	Not Used

1.37 ATX POWER CONNECTOR (ATX1)



1. 3.3V	11. 3.3V
2. 3.3V	12. –12V
3. GND	13. GND
4. 5V	14. PS-ON
5. GND	15. GND
6. 5V	16. GND
7. GND	17. GND
8. PW-OK	18. –5V
9. 5VSB	19. 5V
10. 12V	20. 5V

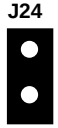
1.38 AT POWER CONNECTOR (AT1)



1. POWER GOOD	7. GND
2. VCC	8. GND
3. +12V	9. –5V
4. –12V	10. VCC
5. GND	11. VCC
6. GND	12. VCC

1.39 SYSTEM POWER SELECT (J24)

Assume user uses AT insert Jumper at J24 Pin for ATX power Jumper is not required.



JUMPER	POWER	NOTE
ON	AT	
OFF	ATX	Factory Preset

Note:
If the content in setting is inconsistent with the CD-ROM, please refer to the setting as the priority.